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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,173	01/18/2002	Gai-Li Jiao	2577-107	9552
6449 7590 02/09/2007 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005			EXAMINER HELMER, GEORGIA L	
			ART UNIT 1638	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		02/09/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/09/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

## Office Action Summary

Application No.

09/936,173

Applicant(s)

JIAO ET AL.

Examiner

Georgia Helmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4,5,7,8,10,11,13-26,28,30-32 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4, 5, 7, 8, 10, 11, 13-26, 28, 30-32, 36 and 37-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

***Request for Continued Examination***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 November 2006 has been entered.

***Status of the Claims***

2. Applicant has amended claims 4, 5, 7, 8, 10, 11, 13-26, 28, 30-32 and 36. Applicant has added new claims 37-39. Claims 1-3, 6, 9, 12, 27, 29 and 33-35 have been canceled. Claims 4, 5, 7, 8, 10, 11, 13-26, 28, 30-32, 36 and 37-39 are pending and are examined in the instant action.

3. The 37 CFR § 1.132 Declaration of Yan Hong dated 11 February 2006 is acknowledged.

4. All rejections not addressed below have been withdrawn.  
the text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 112 Enablement***

5. Claims 4, 5, 7, 8, 10, 11, 13-26, 28, 30-32, 36 and 37-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. These rejections are made for the reasons set forth below and as stated in the previous Office Actions.

Enablement is considered in view of the *Wands* factors (MPEP 2164.01(a)).

*The breadth of the claims:* The claims are drawn to a method of producing a transgenic cotton plant comprising obtaining cotton fibrous root explants after pretreatment with multi-effect triazole, growth on medium comprising naphthalene acetic acid, myo-inositol, dimethylallyl, culturing them to induce callus, exposing root callus to *Agrobacterium tumefaciens* comprising an exogenous gene and a selective marker gene, the *Agrobacterium* being capable of effecting a stable transfer of both genes to the callus cell genome, culturing the callus in the presence of selection agent, inducing somatic embryos in the selected callus and regenerating the induced somatic embryo into whole transgenic cotton plants. The claims are also drawn to pretreatment with multi-effect triazole, growth on medium comprising naphthalene acetic acid, myo-inositol, dimethylallyl(amino)purine, 2,4-D, MgCl<sub>2</sub>, glucose, gellan gum, and/or NaNO<sub>3</sub>.

The claims are drawn broadly to all cotton varieties, all culture media comprising multi effect triazole (MET) including any and all compositions, all *Agrobacterium*, all vectors, all exogenous genes, all selectable agents, and all selective markers.

*Working Examples:* Applicant teaches Agrobacterium mediated transformation of cotton as described in the specification (pages 10, line 22 through page 16, line 6).

The 37 CFR § 1.132 Declaration of Yan Hong dated 11 February 2006 has been carefully considered and is found to be unpersuasive.

Hong states that "the following experiments were performed following the protocols described in the instant application". (Declaration p. 2, 1<sup>st</sup> sentence). Hong continues: Fifteen transgenic cotton lines were obtained from these transformed fibrous root explants using the techniques described in the present application (p. 2, number 5). Hong provides data from these transgenic cotton lines. See p. 3. This data is titled "Molecular characterization of transgenic cotton lines derived from fibrous root explants infected by Agrobacterium AGL1 with binary vector PZP-GFP". The presented data shows integration of GFP and NPTII genetic material in the genomic DNA of the plant lines.

However, as set forth by the Office in the previous Office Action (mailed 12 April 2006): The scope of Applicant's claims is broadly drawn to encompass all varieties of cotton plants, all culture media comprising multi-effect triazole and naphthalene acetic acid, all Agrobacterium tumefaciens strains, all selectable agents and all selective markers.

Applicants teach a method comprising use of fibrous root explants of Coker 312 cotton seedlings, cocultivation with Agrobacterium tumefaciens LBA4404 and

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production of luciferase-positive plant tissue. See specification (Table 1, p. 16). Table 1 is titled "Brief summary of root as explant for transformation". Hong says that they established that the method can be used with a variety of Agrobacterium strains, but it appears that only AGL1 was used. Furthermore, the Declaration was provided by an investigator who works for the assignee of this application, and therefore appears not to be a disinterested party.

**The Office is unable to locate any evidence of a multi-effect triazole treatment of any concentration in the exemplified examples 1-4, specification p. 10, lines 20 to p. 16, line 8).** The Applicant has been encouraged to point out and indicate such information in the previous Office Action. Given that no information is provided for multi-effect triazole treatment of any concentration in the exemplified examples, and given that no comparison data showing the effects of MET treatment vs. no MET treatment for cotton transformation from fibrous root explants are set forth, the claimed invention is not enabled.

In view of the breadth of the claims (all varieties of cotton plants, all culture media comprising multi-effect triazole, all Agrobacterium strains, all vectors, all exogenous genes, all selectable agents, and all selective markers), the nature of the invention, the high level of unpredictability of the art as evidenced by Hansen et al and cited in the Office Action mailed 6 May 2004, the lack of guidance in the specification, undue trial and error experimentations would be required to enable the invention.

#### **Remarks**

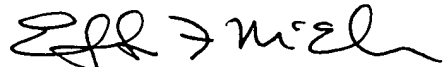
6. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Georgia Helmer whose telephone number is 571-272-0796. The examiner can normally be reached on 10-6 Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Georgia Helmer PhD  
Patent Examiner  
Art Unit 1638  
4 February 2007



ELIZABETH MCELWAIN  
PRIMARY EXAMINER